

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Kerry Kulowski, et al.

Examiner:

Epperson, Jon D.

Serial No. 10/082,661

Art Unit:

1639

Filed: February 20, 2002

Docket No.

1221.001US1

Title: BIOCATALYSTS AND METHOD THEREFOR

MAIL STOP AMENDMENT  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

**Amendment and Communication In Response to Non-Final Rejection**  
**Under 37 CFR 1.111**

Dear Sir:

This Amendment and Communication is being filed in Response to the Office Action mailed on September 2, 2003.

CERTIFICATION OF FILING RESPONSE: The undersigned hereby certifies that this Transmittal Letter and the paper, as described herein, are being faxed to 703.872.9306, the facsimile number indicated on the Office Action on Page 23, addressed to: MAIL STOP AMENDMENT, Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450 on ~~January 29, 2004~~, 2004.

February 2,

Mark A. Litman  
Name  
Signature

### ELECTION OF INVENTIONS

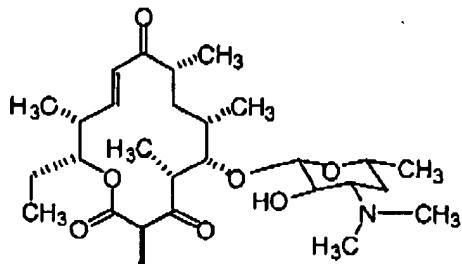
Applicants confirm their previous election, without traverse, of claims 1-9 and 17-19 for examination on the merits.

#### Election of Distinct Species for Purpose of Examination

In accordance with the general outline of species within broader groups identified by the Examiner, Applicants confirm their election, solely for the purpose of examination and not with any acknowledgment of separate or distinct species, the following subgroups within the claims of Group I. The claims directed to these subspecies and a single claim embodying these narrowed subspecies is also provided.

Applicants, in accordance with the above limitations identify the following subspecies for examination:

1. Subspecies 1, Species of Host Cell: *Streptomyces lividans*
2. Subspecies 2, Species of biotransformation Gene: PikC
3. Subspecies 3, Species of Number of Biotransformation Genes Into the Host Cell: Applicants identify and elect the substitution of three genes, with gene 1 replaced with desVII, gene 2 replaced with pikC, and gene 3 replaced with desR.
4. Subspecies 4, Species of Chemical Substrate: Applicants select narbomycin structure, the glycosylated macrolide represented by the following formula:



5. Subspecies 5, Species of Biocatalyst: Applicants identify monooxygenase (the pikC enzyme) as this subspecies.

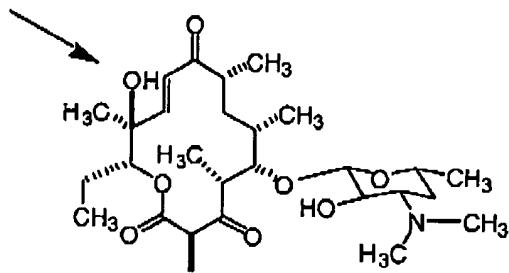
6. Subspecies 6, Number of Catalysts: As indicated in 3 (above), Applicants identify the following specific series of biocatalysts for examination on the merits:

Glycosyltransferase (desVII enzyme);

Monoxygenase (PikC enzyme); and

Glycosidase (desR enzyme)

7. Subspecies 7, Species of Chemical Functional Groups: The pikromycin structure shown below, the hydroxylated narbomycin structure, is elected for purposes of examination:



8. Subspecies 8, Species of Reactions: hydroxylation is the species of reaction chosen.

9. Subspecies 9, Species of Functional Group Added: The functional group added will be selected as a hydroxyl group (indicated by above arrow).

10. Subspecies 10, Species of Method Steps: The single species of method steps selected is the transformation of Streptomyces protoplasts.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**RECEIVED  
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Applicant: Kerry Kulowski, et al. Examiner: Epperson, Jon D.  
 Serial No. 10/082,661 Art Unit: 1639  
 Filed: February 20, 2002 Docket No. 1221.001US1  
 Title: BIOCATALYSTS AND METHOD THEREFOR

FEB 04 2004

**OFFICIAL****MAIL STOP AMENDMENT**

Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

**The following documents are hereby submitted:**

- Amendment and Response to Restriction Requirement (19 pages)  
 Transmittal Sheet

If an additional fee is required due to changes to the claims, the fee has been calculated as follows:

CLAIMS AS AMENDED						
	(1) Claims Remaining After Amendment		(1) Highest Number of Claims Previously Paid For	(3) Present Extra	Rate	Fee
TOTAL CLAIMS	11	-	20	0	x 9.00 =	\$00.00
INDEPENDENT CLAIMS	2	-	3	0	X 42.00 =	\$00.00
[ ] MULTIPLE DEPENDENT CLAIMS PRESENTED						\$00.00
TOTAL						\$00.00

Please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers if an additional extension of time is deemed necessary by the Office. Authorization is hereby given to charge Deposit Account Number 50-1391 if such additional extension is necessary.

MARK A. LITMAN & ASSOCIATES, P.A.

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 Edina, MN 55435 (952-832-9090)

By: Mark A. Litman

Atty: Mark A. Litman  
 Reg. No. 26,390

CERTIFICATION OF FILING RESPONSE: The undersigned hereby certifies that this Transmittal Letter and the paper, as described herein, are being faxed to 703.872.9306, the facsimile number indicated on the Office Action on Page 23, addressed to: MAIL STOP AMENDMENT, Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450 on February 2, 2004.

February 2,

Mark A. Litman  
 Name

Mark A. Litman  
 Signature